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Ways to Optimize the General Physical Training at the Junior Handball Teams

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Abstract

The development of general motor skills of children start practicing handball is given to the athlete's physical preparation which are able to perform specific motor acts tactical-technical content specific schemes for solving the driving qualities of individual tasks and collective game. At all levels handball performance, physical training is that which marks the whole process of preparation leading athletes efficiency to training and competitions. For sports games in general and specifically the game of handball, physical training is decisive importance in the training of children and junior stimulating major functions of the body that contributes to faster adaptation to the specific efforts of the body structure specific driving game.

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Keywords: handball, motricity physical training, juniors, optimization

Introduction

Physical training in the two aspects of his general physical training and physical training specific,, is a fundamental condition for the acquisition and application of techniques and tactics in the game of handball. "Achieving high performance value is influenced obviously by general physical training plays an important role in shaping individual performances and those of the team" (Kunst Ghermănescu I., 1983). Given that players must have outstanding driving skills to enable them to successfully cope with the increasing demands of the current handball. General physical preparation is what the volume and variety of driving habits and skills acquired provide basic support that can build other components of sports training, providing training and technical prerequisites for a

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good tactical and psychological. By this, it provides players a good ability to work in terms of effort, manifested by superscript expression of key basic motor skills (speed, agility, strength and power), and the formation of a large number of skills and abilities to move with applicability in ever-changing situations arising during games. Physical training leads to the development of motor skills ,,qualities and skills of movement, which provides premises" (Nicu A., 2002) technical, training, tactical and psychological structures necessary for successful game, accounting for handball game support that can build other components of sports training. Good physical training leads to the development of economic and efficient technical execution, very often being decisive in achieving athletic performance. At all levels of performance, the importance of general physical training is widely recognized by contributing to the improvement of physiological potential and capacity to achieve the athletes driving model of the game and player to successfully cope with current requirements handball. Individualization oriented optimization training and general physical preparation-specific physiological and psychological characteristics of athletes will improve naturally results thus achieving athletes and training and performance.

Methods. In developing this research work were used the following research methods: Studying literature in order to know the views of workers,, sport science and physical education "on the knowledge of the research topic. In this respect have been studied a number of reference works and foreign specialists with reference to the topic under research. Teacher observation method present throughout the experiment in order to know the peculiarities subjects and lesson characteristics of this echelon of performance training, methods and means of training and planning documents to be prepared. Control samples and test method. Samples and tests were applied to significant control and high-use handball game for assessing the general physical training, such as long jump on the spot; Running speed start kicking the distance of 30 meters; pushups (max); handball throwing away; raising the vertical trunk (90°) of dorsal slept for 30 seconds; Running resistance 800m. Method pedagogical experiment conducted at the level of junior III groups consisting of a total of 16 subjects were tested at the beginning and end of the preparatory period, during the drive selected and custom means we are two months . The level of development of specific indicators of general physical preparedness motor was rated at the beginning and end of the experiment. Statistical and mathematical method for processing the results achieved by using domain-specific indicators (arithmetic mean, standard deviation, coefficient of variation, the test ,,t". Graphical method for representation of the training tools used and the differences between the initial and final test results obtained from research subjects.

Results. The results of the experimental group athletes selected control samples to assess the development of general physical training (long jump from place; running the distance of 30 m, pushups, throwing the ball, raising the vertical trunk of lying dorsal, running 800m presented in table 1.

Table 1: Results from control samples - initial testing

	Control samples					
Game post	**Standing long jump**	**Running 30 m**	**Pushups**	**Throwing the ball**	**Increase the vertical trunk**	**Running 800 m**
Goalkeeper	175	5,43	16	34	22	4,23
Goalkeeper	175	5,72	19	35	21	3,57
Left wing	180	5,33	15	36	26	4,12
Left wing	170	5,37	14	37	26	3,50
Left back	175	5,34	22	35,5	25	3,52
Left back	185	5,78	24	37,5	28	3,45
Center back	185	6,00	16	37	28	3,54
Center back	175	5,78	16	35,5	25	3,57
Right back	190	5,88	25	38	26	4,21
Right back	180	5,56	18	38,5	24	3,55
Left back	185	5,67	28	40	27	3,45
Left back	195	5,43	17	39	27	4,15
Pivot	180	5,51	26	38,5	28	4,10
Pivot	185	5,84	21	35,5	25	4,24
Arithmetic mean	**181,07**	**5,62**	**19,79**	**36,93**	**25,57**	**3,80**

Standard deviation	**6,84**	**0,22**	**4,54**	**1,76**	**2,21**	**0,34**
Coefficient of variation	**3,78**	**3,94**	**22,96**	**4,78**	**8,64**	**8,97**

After initial testing, which took place at the beginning of preparatory research subjects have completed a training program main objectives were oriented to optimize general physical preparedness. Drive means for this time of preparation were selected and assayed in full accordance with the peculiarities of age and training of Junior III. At the end of the research, were passed the same control sample results are reported in Table 2.

Table 2: Results from control samples - final testing

	Control samples					
Game post	**Standing long jump**	**Running 30 m**	**Pushups**	**Throwing the ball**	**Increase the vertical trunk**	**Running 800 m**
Goalkeeper	185	4,98	23	39,5	28	3,47
Goalkeeper	182	5,12	24	38	26	3,03
Left wing	183	4,55	22	40	31	3,31
Left wing	179	4,58	20	42	29	3,18
Left back	176	4,60	26	39	30	3,28
Left back	187	4,85	28	41	32	3,03
Center back	190	5,12	22	41	33	3,11
Center back	185	5,00	19	39,5	31	3,08
Right back	195	5,18	29	42,5	32	3,37
Right back	186	4,88	25	41	29	3,21
Left back	190	5,12	31	43	31	3,09
Left back	198	4,88	24	43	31	3,36
Pivot	187	5,03	30	42	34	3,30
Pivot	192	4,94	27	40	30	3,41
Arithmetic mean	**186,79**	**4,91**	**25,00**	**40,82**	**30,50**	**3,23**
Standard deviation	**5,96**	**0,20**	**3,68**	**1,55**	**2,07**	**0,15**
Coefficient of variation	**3,19**	**4,17**	**14,72**	**3,80**	**6,77**	**4,54**

The changes between the two tests were screened using „t" test to check the dependent null hypothesis that assumes that there is no difference between the initial and final results of the test .. The test „t" was calculated to compare it with the in the table of Fisher the column corresponding to the number of cases f = n-2 or 14-2 = 12. Its value and significance thresholds are shown in Table 3.

Table 3. Statistical indicators to control samples

	CONTROL SAMPLE											
	Running 30 m		**Increase the vertical trunk**		**Standing long jump**		**Push-ups**		**Throwing the ball**		**Running 800m**	
	TI	**TF**	**TI**	**TF**	**TI**	**TF**	**TI**	**TF**	**TI**	**TF**	**TI**	**TF**
x	5,62	4,91	25,57	30,50	181,07	186,79	19,79	25,00	36,93	40,82	3,80	3,2356
„t"	9,94		20,11		10,41		12,77		21,28			
p	p<0,01		p<0,01		p<0,01		p<0,01		p<0,01		p<0,01	

Discussion. Research subjects obtained from the control sample in place long jump, the arithmetic average value of 181.07 cm with a standard deviation of 6.84 cm, and a coefficient of variation of 3.78% for the final testing

media arithmetic to be 186.79 cm with a standard deviation of 5.96 cm and a coefficient of variation is 3.19%. ,, T test value "is 10.41 which indicates that the differences are significant, with a confidence interval of 99% (p <0.01).

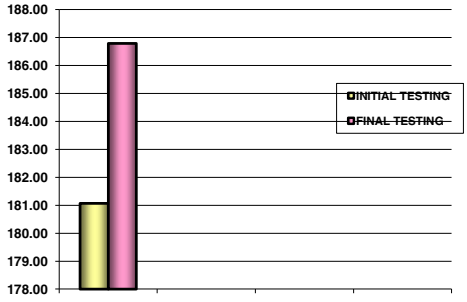

Fig. 1. Standing long jump

Running speed on the distance of 30 m, recorded between the two tests an average of 0.44 times decrease in the average value of 5.35 s initial testing with a standard deviation of 0.19 and a coefficient of variation of 3.64% because at the end of the research to be the arithmetic mean of 4.91 and standard deviation was 0.20, and the coefficient of variation of 4.17%. The value of the,, t "of 9.94 compared with that of,, t" in the table of Fisher corresponding to the number of cases in column f = n-1 (14-1 = 13) shows that the differences are significant, ith 99% confidence (p <0.01).

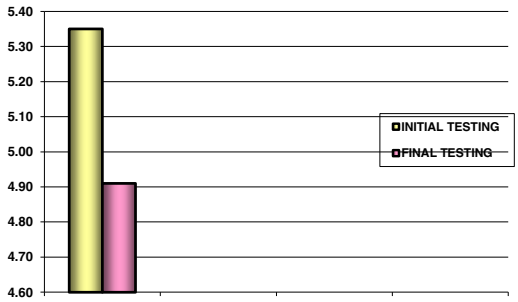

Fig. 2. Running 30 m

The control sample push-ups, initial testing repetitions mean value is 19.79 with a standard deviation of 4.54 and 22.69% coefficient of variability while the number of repetitions of the final test is the standard deviation 25.00 3.68 repetitions and coefficient of variation of 14.72%. ,, T test value "of 10.41 is within the threshold of significance p <0.01 which shows that the differences are significant, with a confidence interval of 99%.

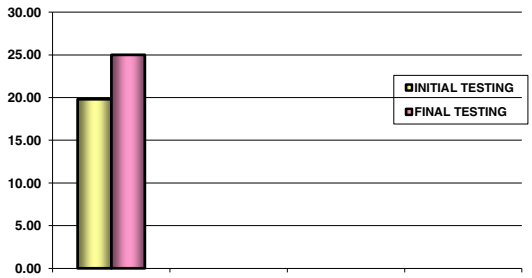

Fig. 3. Push-ups

The control sample handball throwing distance were recorded following arithmetic: initial testing 36.93 m with a standard deviation of 1.76 m and a coefficient of variation of 4.78% and testing the final averaging 40.82 m with a standard deviation of 1.55 m and a coefficient of variation of 3.80%. Student test value is 21.28 compared with that of,, t "Fischer's table corresponding to the number of cases in column f = n-1 (14-1 = 13), shows that the differences are significant, with a 99% confidence (p <0.01).

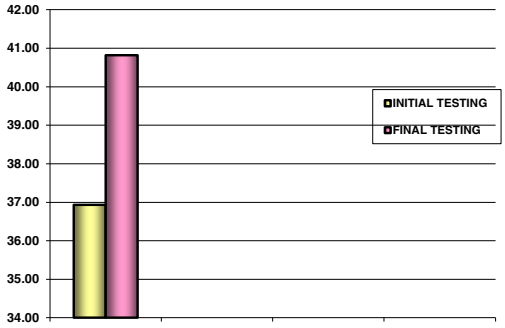

Fig. 4. Throwing the ball

Performance of the research subjects in the control sample in the vertical lift trunk lying dorsal initial testing shows the arithmetic average value of 25.57 repetitions with a standard deviation of 2.21 and a coefficient of variation of 8.64%. Jump final testing is registered 4.93 with an average of 30.50 repetitions, standard deviation of 2.07 and coefficient of variation of 6.77, which indicates a higher homogeneity of the group. The value of,, t "calculated is 20.11 which progress within materiality p <0.01.

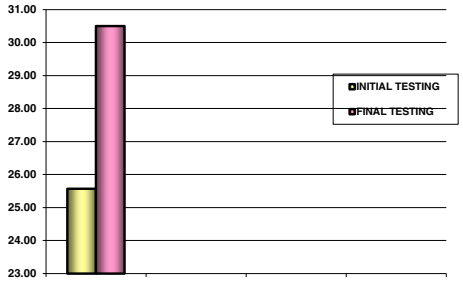

Fig. 5. Increase the vertical trunk

The control sample run on the distance of 800 m, the average is 3.80 minutes with a standard deviation of 0.34 minutes and a coefficient of variation is 8.97% which means small degree of scattering, because the final average performance testing to be 3.23 minutes, with a deviation of 0.15 minutes, and a coefficient of variation of 4.54% - high uniformity. Student test value of 9.50 shows that the differences are significant, with a confidence interval of 99% (p <0.01).

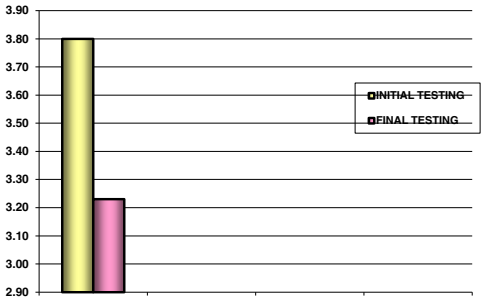

Fig. 6. Running 800m

Conclusions

Physical preparation is one that provides increased functional capacity of the organism, causes the development of motor qualities, the skills and specific skills as well as safety and confidence in victory executions.

For sports games in general and specifically the game of handball, physical training is decisive importance in the training of children and junior stimulating major functions of the body that contributes to faster adaptation to the specific efforts of the body structure specific driving game.

The main task of general physical preparedness is to extend such indexes content elements of physical training that athletes will not have any difficulty in solving the actions required by practicing at a higher level handball. Performances of research subjects after operation with selected media and new custom led to jumps in value to control samples revealed both by the higher values of arithmetic average in final testing, but especially by,, t test values "classified as threshold significance $p < 0.01$ in all control samples.

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